



## DNA Certificate

### Accordant International Pigeon Panel by ISAG

Certificate issued on septembre 18, 2015 in Moen, Belgium

Certificate updated mai 20, 2022



**SEP20150159**

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This certificate<sup>1</sup> ensures parentage authenticity of pigeon BE13-4176517.

BE13-4176517 Wacko Freddy Quality Genes <sup>3</sup> : DRD4: CCCC   LDHA: AB Certificate: SEP20150159 <b>Proven by DNA</b>	BE11-5170088 Porsche 088 Certificate: OCT20150035 <b>Proven by DNA</b>	grandfather
		grandmother
	BE12-4163422 Blue Ace Freddy'ke Quality Genes <sup>3</sup> : LDHA: AB Certificate: JUL20130340 <b>Proven by DNA</b>	BE09-5052387 New Freddy Certificate: JUL20130052 <b>Proven by DNA</b>
		grandmother

Ruben Lanckriet

Pascal Lanneau

<sup>1</sup> This certificate is issued based on tests performed on DNA samples to PiGen by accredited veterinarians and/or FCI officials appointed by the persons that confirmed, on the date of DNA sampling, to be the respective owners of the pigeons with the ringnumbers mentioned in this certificate.

<sup>2</sup> DNA testing is done according to internationally agreed Pigeon Panel and recommendations by ISAG (International Society of Animal Genetics). The testing labs are certified according NEN-EN-ISO 9001. The probability of exclusion (PE) of this parentage verification is higher than 99,9%.

<sup>3</sup> The following DNA markers are scientifically associated with racing performance;

LDHA is a gene for a lactate dehydrogenase enzyme.

DRD4 or dopamine receptor 4 gene is an indicator for character traits.

CRY1 or cryptochrome 1 gene codes for a protein in the retina of the eye.

Calcium/calmodulin-dependent serine protein kinase (CASK) is a gene important for synapse formation in the brain and the nerve-muscle connection.

LDL Receptor related Protein 8 (LRP8) is a gene important for the growth of the hippocampus inside the brain.

The hippocampus is important for recognition of geographic structures and navigational abilities.

Glutathione-diSulfide-Reductase (GSR) is a protein that is associated with magnetoreception abilities.

